

**CHANGE IN SERUM BETA-ENDORPHIN BY PROGRAMMED EXERCISE TRAINING CORRELATES WITH IMPROVEMENT OF CLINICAL SYMPTOMS AND QUALITY OF LIFE IN FEMALE MITRAL VALVE PROLAPSE SYNDROME**

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**BACKGROUND:** Mitral valve prolapse is a common entity in the female population. Although this is a minor disease, it may cause annoying symptoms that impair quality of life, and there is no established therapy for this problem. The aim of this study is to examine whether programmed exercise training by treadmill in female mitral valve prolapse syndrome would improve clinical symptoms and quality of life.

**METHODS:** An interventional study of 39 females with mitral valve prolapse syndrome with treadmill exercise endurance training for 12 weeks. Every individual received training for 30 min a day, thrice a week for 12 weeks. Baseline and post-exercise at 12 weeks serum beta-endorphins were measured. Symptom improvement was assessed by the mitral valve prolapse symptom checklist questionnaire and the Euro-QOL-5D was used to measure quality of life improvement in these females.

**RESULTS:** The mean serum beta-endorphin increased from 0.5 to 1.68 ng/ml ( $p = 0.001$ ) in the exercise group ( $n=18$ ) after 12 weeks of exercise, whereas the control group ( $n=21$ ) did not show any significant changes (0.44 vs 0.43 ng/ml). Major symptoms of mitral valve prolapse such as chest pain, palpitations and fatigue improved significantly by assessment of the mitral valve prolapse symptom checklist. The quality of life of females in the exercise group also showed significant changes.

**DISCUSSION/CONCLUSIONS:** In females with mitral valve prolapse undergoing programmed exercise training, the improvement in symptoms and quality of life is parallel to the increase of serum beta-endorphins. This result indicates that females with mitral valve prolapse should initiate exercise to tackle this annoying problem.

**Key Words:** beta-endorphin, mitral valve prolapse, Female